

## CLAIMS:

1. A detector for detecting a differential binary signal having a first signal level during a first period and a second signal level during a second period, the detector comprising:

- an amplitude detection circuit for producing an amplitude signal indicative of the amplitude of both the first and the second period of the binary signal,
  - 5 - a slice level detection circuit for producing a slice level signal indicative of the average slice level to be applied to the binary signal,
  - an output circuit for outputting the detected binary signal,
  - an offset circuit for producing a slice level offset signal in response to the 10 outputted binary signal, the slice level signal and the amplitude signal, and
    - a level shift circuit coupled to the output circuit (4) for level shifting the binary signal in response to the slice level offset signal,
- wherein said circuits are coupled so as to detect the differential binary signal using a first slice level during the first period and using a second slice level during the second 15 period, and wherein all said circuits are differential circuits.

2. A detector according to claim 1, wherein the output circuit comprises a limiter circuit.

20 3. A detector according to claim 1 or 2, further comprising a first additional level shift circuit coupled to the amplitude detection circuit and/or a second additional level shift circuit coupled to the slice level detection circuit.

4. A detector according to any of the preceding claims, further comprising a 25 decoupling circuit for decoupling the binary signal prior to feeding it to the other circuits.

5. An offset circuit for use in a detector according to any of the preceding claims, the offset circuit comprising:

- a first differential amplifier for processing the detected differential binary signal, and

- at least a second differential amplifier for processing the slice level signal and its inverse.

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6. An offset circuit according to claim 5 or 6, wherein the slice level offset signal is limited to a maximum and a minimum value.